



UNITED STATES PATENT AND TRADEMARK OFFICE

119
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,762	01/31/2006	Jens Bretchneider	DE03 0266 US1	6169
65913 7590 11/14/2007 NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER NGUYEN, KHAI M	
			ART UNIT 2819	PAPER NUMBER
			NOTIFICATION DATE 11/14/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/566,762

Applicant(s)

BRETCHNEIDER, JENS

Examiner

Khai M. Nguyen

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7, 9-16 and 27-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-7 and 9-16 is/are allowed.
- 6) ☒ Claim(s) 27-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/31/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. The drawing of **Fig. 1** (filed 1/31/2006) is objected to because it contains blocks that have no identifying texts (e.g., blocks 1-5, 7-9, 26... 29). Correction is required.
2. Claims 1-2, 8, and 17-26 have been cancelled by the applicant.
3. Claims 3-7, 9-16, and 27-36 are pending.
4. Claims 27 and 32 are objected to because the acronym "A/D" is not spelled out (it should be changed to read "analog-to-digital").
5. Claim 30 is objected to because the second step of "triggering..." is identical to the first step and the last step of the claim lacks antecedent basis (e.g. "the second signal"). Correction/Clarification is required.
6. Claim 35 is also objected to because the second "triggers..." is repetition of the first "triggers..." Correction/Clarification is required.

Thus, claims 30 and 35 are examined as best understood by the examiner.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2819

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 27-29 and 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Rubin et al. (US 6,946,984), hereinafter referred to as "Rubin"

Regarding claim 27, Rubin discloses a method of analog-to-digital (A/D) conversion using a multi-channel A/D converter (see Fig. 11) comprising a plurality of input channels (416), a channel multiplexer (404), a shared A/D converter (402), and a controller (408-410), the method comprising the steps of:

the controller (408-410) dynamically controlling sample rates (col. 27, lines 15-18, lines 30-32, and lines 57-63) of the input channels (416) in response to data provided to the controller via a conversion request bus (bus 428);

sampling (by T/H circuits 411) the input signals (416) applied to the input channels in accordance with said sample rates to produce sampled input signals (col. 27, lines 57-63); and

performing A/D conversion (by ADC 402) of the sampled input signals using the shared A/D converter.

Art Unit: 2819

Regarding claims 28-29, Rubin discloses the method of claim 27, comprising selecting a sample rate for each of the input channels from among multiple available sample rates, which are binary weighted (line 57 of col. 27 to line 10 of col. 28).

Regarding claim 30, Rubin discloses (Fig. 11) the method of claim 27, comprising:

triggering commencement of an A/D conversion process for a first signal (416) applied to a first input channel (channel that has a highest priority – col. 27, lines 57-63) in response to a first external triggering signal (external signal provided to the first T/H circuit 416);

triggering commencement of an A/D conversion process for a first signal applied to a first input channel (channel that has a highest priority – col. 27, lines 57-63) in response to a first external triggering signal (external sampling signal provided to the first T/H circuit 416);

the controller (408-410) scheduling A/D conversion of a sample of the first signal in response to the first triggering signal and data provided to the controller via the conversion request bus (bus 428); and

the controller (408-410) scheduling A/D conversion of a sample of the second signal in (channel that has a second highest priority – col. 27, lines 57-63) response to the second triggering signal (external sampling signal provided to the second T/H circuit 416) and data provided to the controller (408-410) via the conversion request bus (428).

Regarding claim 31, Rubin discloses the method of claim 27, comprising:
selectively buffering (by a buffer shown in 411) for a time within buffer storage
(track/hold 411) of input signals (416) to the channel multiplexer (404).

Regarding claim 32, Rubin discloses (Fig. 11) a multi-channel A/D converter,
comprising:

- a plurality of input channels (analog inputs 416);
- a channel multiplexer (Mux 404) coupled to the input channels (416);
- a shared A/D converter (ADC 402) coupled to the channel multiplexer (404); and
- a controller (comprising blocks 408-410) coupled to the input channels (416 - col. 27, lines 30-35) and to the shared A/D converter (402), wherein the controller dynamically controls sample rates (col. 27, lines 57-63) of the input channels in response to data provided to the controller via a conversion request bus (bus 428).

Regarding claims 33-36, the scope of these claims are the same as the scope of claims 28-31, therefore, there are also rejected for the same reason as above.

Allowable Subject Matter

8. Claims 3-7 and 9-16 are allowed. The following is a statement of reasons for the indication of allowable subject matter: the references of record neither anticipate nor render obvious the recited combination including the feature of an order of processing the channel sample detected in the respective first or second channel provision area is

Art Unit: 2819

calculated and determined individually for each channel by a controller, wherein the controller calculated an expiry of the multi-channel A/D conversion are valid exclusively for detecting the channel samples in the first or second provision area.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Khai M. Nguyen** whose telephone number is **571-272-**

Art Unit: 2819

1809. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



November 4, 2007

Khai M. Nguyen